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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,228	12/20/2001	David J. Parkinson	M61.12-0413	1828

27366 7590 10/03/2005

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EXAMINER
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WOZNIAK, JAMES S

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/028,228

Applicant(s)

PARKINSON ET AL.

Examiner

James S. Wozniak

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 17-36** are rejected under 35 U.S.C. 102(b) as being anticipated by Heidorn et al (*U.S. Patent: 5,966,686*).

With respect to **Claim 17**, Heidorn et al discloses:

Constructing a syntactic parse structure of a segment found in a sentence of text

*(syntactic subsystem, Col. 6, Lines 28-44; and syntactic parse tree, Col. 8, Lines 31-53);*

Identifying a token outside of the segment *(direct object token that does not directly follow a clause, Col. 14, Lines 1-27);*

Searching the segment for a gap in the relationship that the token can fill, wherein the gap is not represented in the parse structure *(adjusted syntax parse tree, Fig. 44; Col. 14, Lines 1-27, and Fig. 29, Rule 1).*

With respect to **Claim 18**, Heidorn discloses:

Identifying a parse rule for combining the token with the segment (Col. 14, Lines 1-27).

With respect to **Claim 19**, Heidorn recites:

The step of searching the segment is performed before deciding to execute the parse rule (*locating removed phrases before completely implementing reattachment, Fig. 29, Rule 1*).

With respect to **Claim 20**, Heidorn discloses:

Searching the segment is performed as part of executing the parse rule (*locating and reattaching phrases when phrases are detected to fully execute a parse rule, Fig. 29, Rule 1*).

With respect to **Claim 21**, Heidorn recites:

Searching each level of subordinate clauses within the segment (*relative clause, Col. 14, Lines 1-27*).

With respect to **Claim 22**, Heidorn discloses:

Creating an attribute list for a syntactic parse node formed by combining the token and the segment (*Fig. 44, Element 4403*).

With respect to **Claim 23**, Heidorn discloses:

Information in the attribute list indicates that the token may fill a gap in the segment (*indicating that a word is a direct object of a noun phrase, Col. 14, Lines 1-27*).

With respect to **Claim 24**, Heidorn recites:

Information in the attribute list indicates where a gap that the token can fill is located in the parse structure (*Col. 14, Lines 1-27; and Fig. 44*).

With respect to **Claim 25**, Heidorn discloses:

Information in the attribute list indicates the role that a token assumes in a gap (*direct object, Col. 14, Lines 1-27; and Fig. 44*).

With respect to **Claim 26**, Heidorn recites:

Finding two separate gaps in the segment that the token can fill (*Fig. 44, whom as pronoun and direct object in a parse tree; and man as a direct object and reference to he, Fig. 41D*).

With respect to **Claims 27 and 28**, Heidorn discloses:

Determining different roles that the token assumes in each gap (*Fig. 44, whom as pronoun and direct object in a parse tree; and man as a direct object and reference to he, Fig. 41D*).

With respect to **Claims 29 and 30**, Heidorn shows a logical form graph in the form of a parse tree structure (*Fig. 44*).

With respect to **Claim 31**, Heidorn discloses:

Assigning the token to one of the gaps, but not the other in a logical form (*be, Fig. 51*).

With respect to **Claim 32**, Heidorn discloses:

Assigning the token to both of the gaps in a logical form (*be, Fig. 52*).

With respect to **Claim 33**, Heidorn recites:

A token identity field that indicates the identity of a token that could satisfy a relationship within a text segment (*Fig. 44, Element 4403*);

A gap location field that indicates the location of a gap in a relationship in a text segment (*logical parse tree structure, Fig. 44*);

A role field that indicates the role the token would assume if placed in the gap (*Dobj, Fig. 44; and Fig. 29, rule 1*).

With respect to **Claim 34**, Heidorn discloses:

The data structure is associated with a syntax node formed by combining the token with the text segment (*Fig. 44, Element 4403; Col. 14, Lines 1-27; and Fig. 29, rule 1*).

With respect to **Claim 35**, Heidorn recites:

Identifying a segment of text that can act as a filler in a non-local relationship found in a second segment of text ("*person*," *Col. 14, Line 1-Col. 15, Line 29; and Fig. 58*);

Locating a first gap in a relationship in the second segment of text (*Col. 14, Line 1-Col. 15, Line 29; and Fig. 52*);

Locating a second gap in a relationship in the second segment of text (*Col. 14, Line 1-Col. 15; and Fig. 58*);

Indicating that the filler can be placed in both the first gap and the second gap (*Dsub and Dobj, Fig. 58*).

With respect to **Claim 36**, Heidorn discloses:

The filler assumes one role in the first gap and a different role in the second gap (*Dsub and Dobj, Fig. 58*).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Saraki (U.S. Patent: 5,903,858) in view of Zamora et al (*U.S. Patent: 4,887,212*).

With respect to **Claim 1**, Saraki discloses:

Identifying a segment of the text (*syntax analysis including parsing, Col. 9, Lines 26-33; and main clause, Col. 12, Lines 56-65*);

Identifying a token outside of the segment (*relative clause, Col. 12, Lines 56-65*);

Based on the properties of the token and properties of the segment, determining that the token may have a linguistic relationship to a licensing element in the segment (determining a relationship between a clause subject and a relative clause, Col. 12, Line 47- Col. 13, Line 13);

Utilizing the segment for a licensing element in the segment that is capable of being in a linguistic relationship with the token (*main clause subject, Col. 12, Line 47- Col. 13, Line 26; Col. 11, Lines 18-31*).

Although Saraki teaches utilizing the subject of a main clause in a word token relationship, Saraki does not specifically suggest a process for actively searching a phrase for a subject, however Zamora teaches such a method of clause analysis (*Col. 23, Line 5- Col. 24, Line 32*).

Saraki and Zamora are analogous art because they are from a similar field of endeavor in text parsing based on syntax. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Saraki with the clause analysis method taught by Zamora to provide a means for ensuring text is properly identified for further processing by resolving part of speech ambiguities within a clause (*Zamora, Col. 25, Lines 50-56*).

With respect to **Claim 2**, Saraki teaches the syntactic analysis as applied to Claim 1.

With respect to **Claim 3**, Saraki teaches analyzing noun phrase subjects within a main clause (*Col. 12, Line 56- Col. 13, Line 25*).

With respect to **Claim 4**, Saraki teaches utilizing a conjunction to link clauses (*Col. 12, Line 56-65*).

With respect to **Claim 5**, Saraki teaches a sentence rewriting process utilizing a conjunction that takes places after identifying a main clause subject (*Col. 12, Line 56-Col. 14, Line 12*).

With respect to **Claim 6**, Saraki recites:

A syntactic rule is not executed if a licensing element is not found in the segment (*Col. 15, Lines 38-62*).

With respect to **Claim 7**, Saraki discloses utilizing a conjunction-based rewriting rule for a main clause subject (*Col. 12, Line 56- Col. 13, Line 13*), while Zamora teaches the active step of searching for a phrase subject as applied to Claim 1.

With respect to **Claim 8**, Saraki discloses creating a data table indicating a clause connection and the degree of connection of a relative clause (*Col. 10, Lines 46-64*).

With respect to **Claim 9**, Saraki discloses:

Adding the location of the licensing element of the attribute list (*framework, Col. 10, Lines 46-54; and parse tree, Col. 17, Lines 26-53*).

With respect to **Claim 10**, Saraki recites:

Adding a role that the token assumes in the linguistic relationship to the attribute list (*syntax framework, Col. 10, Lines 46-64*).



With respect to **Claim 11**, Saraki teaches finding multiple related phrases (Col. 13, Line 14- Col. 14, Line 12) and constructing a parse tree (*Col. 15, Lines 38-62*), while Zamora discloses the means for searching a clause for a subject as applied to Claim 1.

With respect to **Claim 12**, Saraki discloses:

Adding a Role that the token is capable of assuming in a linguistic relationship to the attribute list (*Col. 10, Lines 46-64*).

With respect to **Claim 13**, Saraki discloses clause type identification (*Col. 13, Line 14- Col. 14, Line 23*).

With respect to **Claim 14**, Saraki discloses:

Constructing a logical form based in part on the attribute list (*syntax analysis tree, Col. 15, Lines 38-59*).

With respect to **Claim 15**, Saraki discloses:

The attribute list is a hierarchical list that has a hierarchy based in part on a hierarchy of clauses in the text (*Col. 15, Lines 38-59*).

With respect to **Claim 16**, Saraki recites:

Accessing the hierarchical attribute list in a top-down manner (*Col. 15, Line 38- Col. 16, Line 54*).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Hutchins (*U.S. Patent: 5,384,893*)- teaches a parser that determines relationships between syntax tags.

Wical (*U.S. Patent: 5,694,523*)- discloses a method for subordinate clause processing.

Carus et al (*U.S. Patent: 5,680,628*)- teaches a method for determining noun phrase identity utilizing token roles and concatenation.

Penteroudakis et al (*U.S. Patent: 5,995,922*)- teaches a means for phrase analysis utilizing an attribute value record for each token.

Corston-Oliver et al (*U.S. Patent: 6,295,529*)- teaches a method for subordinate clause identification.

Even (*U.S. Patent: 6,393,399*)- teaches a method for verifying agreement between a subordinate clause and a related word.

Hindle et al ("Structural Ambiguity and Lexical Relations," 1993)- teaches a method for resolving ambiguous prepositional phrase attachments.


Sauerland et al ("Case Matching in Relative Clause Attachment," 1998)- teaches a method for relative clause attachment.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak  
8/25/2005



W. R. YOUNG  
PRIMARY EXAMINER